



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,529	03/30/2004	Tadahiko Kubota	09792909-5847	6143

26263 7590 10/09/2007
SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

EXAMINER

ECHELMEYER, ALIX ELIZABETH

ART UNIT	PAPER NUMBER
----------	--------------

1795

MAIL DATE	DELIVERY MODE
-----------	---------------

10/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/813,529	Applicant(s) KUBOTA ET AL.	
	Examiner Alix Elizabeth Echelmeyer	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 9-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3-16-07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Claims 1-8 in the reply filed on July 26, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Priority

2. Applicant's claim to priority to applications JP P2002-098454 of April 1, 2003, JP P2003-285009 of August 1, 2003, and JP P2004-026572 is acknowledged. Certified copies of the documents have been received.

Information Disclosure Statement

3. The Information Disclosure Statement filed March 16, 2007 has been considered.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Chemical formula 1 is not clearly defined so as one having

Art Unit: 1745

ordinary skill in the art at the time the invention was made would understand what the formula of RF1, RF2, RF3 or RF4 would be. The claim defines the "number of fluorine or carbon " as "from 1 to 12, respectively". It is unclear what this means. Based on the specification, the examiner will interpret RF to be C_nF_{2n+1} , for example CF_3 (see pages 4, 42, 56, 57, 60 and Tables 1-9).

Claim Interpretation

6. The product-by-process limitations of claim 4 are not given patentable weight since the courts have held that patentability is based on a product itself, even if the prior art product is made by a different process (see In re Thorpe, 227 USPQ 964, (CAFC 1985), In re Brown, 173 USPQ 685 (CCPA 1972), and In re Marosi, 218 USPQ 289, 292-293 (CAFC 1983)). See below.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sonoda et al. (US 2002/0028389).

Sonoda et al. teach a non-aqueous electrolyte for use in an electrochemical device such as a lithium battery (abstract, [0001]). As for claim 1, it is well known to those having ordinary skill in the art that a lithium battery contains a cathode, an anode and an electrolyte.

The electrolyte of Sonoda et al. contains a solute represented by formula (1): $MBR^1R^2R^3R^4$ (abstract, [0010]). R^1 , R^2 , R^3 and R^4 may be represented by C_nF_{2n+1} or $C_mF_{2m+1}SO_2$ ([0011]). Additionally, since formula (1) is in solution in the electrolyte, it can be considered as its cation and anion: $M^+ (BR^1R^2R^3R^4)^-$ ([0019]).

A specific example of the material represented by formula (1) includes $LiB(CF_3)_4$ ([0012]), which is identical to the material disclosed in the instant specification (see paragraph 5, above).

As for claim 2, Sonoda et al. disclose that the negative active material is lithium or material capable of absorbing and desorbing lithium ([0043]).

As for claim 3, examples of the negative material include carbon materials, TiS_2 , and alkali metals such as silicon ([0044]).

With regard to claim 4, Sonoda et al. teach that the anode consists of the material coated onto the surface of a current collector ([0042]). Since this matches the structure of the instant claim, the method by which it was formed is not given patentable weight (see paragraph 6, above).

Regarding claims 6-8, the electrolyte of Sonoda et al. may also include additional anions such as one or a mixture of PF_6^- , BF_4^- , ClO_4^- , AsF_6^- or $N(CF_3SO_2)_2^-$ ([0068]).

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sonoda et al.

The teachings of Sonoda et al. as discussed above are incorporated herein.

Sonoda et al. teach the battery of claim 1 but fail to teach that the moisture content in the electrolyte is 100 ppm or less at a mass ratio in relation to the electrolyte.

Sonoda et al. teach that too much moisture in the electrolyte causes it to decompose ([0004]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to find the lowest tolerable amount of moisture in the electrolyte to prevent decomposition, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. MPEP 2144.05 (II B).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is 571-272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone

Art Unit: 1745

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alix Elizabeth Echelmeyer
Examiner
Art Unit 1745

aee


SUSY TSANG-FOSTER
PRIMARY EXAMINER